



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,509	09/10/2004	Erwin Welbergen	APO32-04	1140
34758	7590	06/18/2007		
JACK SHORE			EXAMINER	
MUCH SHELIST FREED DENENBERG AMENT&RUBENSTEIN,PC			VIDWAN, JASJIT S	
191 N. WACKER DRIVE				
SUITE 1800				
CHICAGO, IL 60606-1615				
			ART UNIT	PAPER NUMBER
			2182	
			MAIL DATE	DELIVERY MODE
			06/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/507,509	Applicant(s) WELBERGEN, ERWIN	
	Examiner Jasjit S. Vidwan	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 16-18, 21-23, 26-28, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hesley et al U.S. Patent No: 6,489,947 [*herein after Hesley*] and further in view of Casebolt et al U.S. Patent no: 6,661,410 [*herein after Casebolt*] and further in view of Applicant Admitted Prior Art (see "Background of Invention") [*herein after AAPA*].

3. As per Claims 16, 26, 28 and 32, Hesley teaches a system for preventing the maintaining of a sustained cramped motionless position of a limb [Col. 3, Lines 55-59, "*...an ergonomic dual-section computer-pointing device, that includes a cursor control section fixedly and movably connected to an ergonomic hand support section, reduces stress and helps to prevent cumulative trauma disorder*"] comprising:

(a) Element [see Fig. 2A, element 200, "*an ergonomic dual-section computer-pointing device*] providing an input signal controllable by a user through interaction with a user's limb [see Fig. 2B, element 292] disposed adjacent said element [Col. 13, Lines 60 – *pressure sensors determine whether a hand is present over the element*]

(b) Timing means [see Fig. 4B, element 402, *Pressure timing circuit*] for determining the length of time when a limb is present [Col. 6, Lines 64-67]

(c) Means for generating an alarm signal to the user when said length of time exceeds a threshold value [Col. 14, Lines 39-49 – also see Fig. 5, element 508]

Hesley teaches the above limitations and further teaches starting the timing means when the hand is present on the pointing device. However, Hesley does not expressly disclose starting the timer only when the hand is present on the mouse yet inactive. Casebolt teaches a system/method of sensing conditions where the hand is rested on the mouse for a relatively long period without moving the mouse **[see Casebolt, Col. 15, Lines 16-20]**.

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to combine the teachings of Hesley with that of Casebolt in order to take advantage of utilizing effective power management in user operated data input devices **[Col. 3, Lines 9-12]**. It is for this reason that one of ordinary skill in the art at the time of Applicant's invention would have been motivated to combine the two teachings above in order to take advantage of utilizing effective power management in user operated data input devices **[Col. 3, Lines 9-12]**.

As for the intended use of "preventing the maintaining of a sustained cramped motionless position of a limb", it should be noted that the combination of Hesley and Casebolt teach all the limitations of the claimed invention and it is not necessary for the combination of the two references to require the same motivation or intended use as the Applicant. Examiner's position regarding this argument is explained in detail herein after. Though Casebolt's system is geared towards a power management system, it would have been obvious to combine the teachings of Hesley with that of Casebolt because the system is configured to be used in environments outside of simply power management system **[see Casebolt, Col. 6, Lines 48-63]**. It would have been further obvious to one of ordinary skill in the art that was aware of a well-known problem of developing RSI associated with prolonged immobile use of computer mice to combine the above two references to reduce the risk of developing RSI **[see AAPA, "Background of Invention", Paragraph 0003]**.

Essentially to avoid any future disagreement over the "unwarranted" combination of above references (as has been repeatedly brought up by the Applicant in previous office actions), the Examiner would like to point out that the Examiner is relying on Casebolt only for his teachings of a well-known state machine having a state wherein user's hand is present on the mouse yet the mouse has not been moved for a predetermined time. Hesley's system already teaches all the limitations of the claimed

invention including warning the user of possibly developing RSI due to prolonged use of the mouse and alerting him/her to "take a break" at appropriate expiration of the time. Even though, Casebolt's system is not necessarily in the field of "preventing the maintaining of a sustained cramped motionless position of a limb" (albeit it possibly just as easily could given that Casebolt teaches using the system in number of other environments), it should be noted that the above limitation is simply the "intended use" of a Applicant's system (which is even covered by Hesley). As a non-limiting example, it is similar to attempting to claim a system of a pencil for the intended use of using it as a dart (as long as prior art can show the system of a pencil, the "intended use" of the said pencil is irrelevant). Therefore, to summarize, one of ordinary skill in the art aware of problems associated with RSI by way of prolonged immobile use of the computer mice would have clearly seen the benefit of combining the system of Hesley with that of Casebolt's state machine configured to detect presence of a user while the mouse is inactive.

4. **As per claim 17**, Hesley as modified by Casebolt above teaches a system wherein there is included a sensor capable of detecting the presence of a limb placed on or over at least a part of said element [see Hesley, Col. 13, Lines 46-58, "*Pressure sensor*"]

5. **As per claim 18**, Hesley as modified by Casebolt above teaches a system wherein signal comprises a tactile signal [see Hesley, Col. 5, Line 63 – Col. 6, Line 6].

6. **As per Claim 21**, Hesley as modified by Casebolt above teaches a system in which the alarm signal has multiple settings whereby the nature of the alarm signal changes if the presence of the limb continues to be detected after the alarm signal has initially been generated [Col. 14, Line 63 – Col. 15, Line 5, "*...the severity of the warning increases*"].

7. **As per Claim 22 and 31**, Hesley as modified by Casebolt above teaches a system in which the alarm signal comprises means for generating an audible alarm [see Fig. 4B, element 403 & 475, "*Sound generator*" - "*Speaker*"]

8. **As per claim 23 and 30**, Hesley as modified by Casebolt above teaches a system wherein the alarm signal comprises means for generating a visual signal [Col. 15, Lines 43-48]

9. **As per Claim 27**, Hesley as modified by Casebolt above teaches a device in which the configuration of the device is adapted to allow the means for detecting activity of the user's limb to detect

the activity of a user's limb placed on or over at least part of the element **[Col. 13, Lines 46-58, "Pressure sensor"]**, and means for communicating the signal representative of the detected activity to a controller configured to generate the alarm signal if no user activity is detected for or during a period of time **[Col. 14, Lines 39-49 – also see Fig. 5, element 508]**.

10. Claims 19, 20 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hesley and Casebolt and further in view of Serpa U.S. Patent No: 6,587,091 **[herein after Serpa]**.

11. **As per Claim 19 and 29**, Hesley as modified by Casebolt teaches the limitations of claims 18 and 28, however fail to teach a system wherein the element includes a member adjacent the limb and disposed adjacent the member is a motor operated eccentric mass that vibrates the member the tactile signal. However, Serpa teaches the limitation wherein the element **[see Serpa, Lines 33-38]** includes a member adjacent the limb and disposed adjacent the member is a motor operated eccentric mass **[see Serpa, Fig. 2a, element 11, 12]** that vibrates the member to provide the tactile signal **[see Serpa, Col. 1, Lines 31-34]**.

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to combine the above teachings in order to take advantage of plurality of practical applications such as with computer systems intended for use by the vision or hearing impaired to game systems that enhance a user's experience through force feedback **[see Serpa, Col. 1, Lines 37-44]**. It is for this reason that one of ordinary skill in the art at the time of Applicant's invention would have been motivated to combine the above teachings.

12. **As per claim 20**, Casebolt as modified by Serpa above teaches a system wherein the element comprises a mouse housing and the motor operated eccentric mass is located within the housing to vibrate the housing, thus causing the tactile signal **[see Serpa, Fig. 3a, elements 11 – motor, 19 – housing]**

13. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hesley and Casebolt and further in view of Gould et al U.S. Patent No: 6,065,138 **[herein after Gould]**.

14. **As per claim 24**, Hesley as modified by Casebolt teaches the limitations of claims 16 and further means for generating the alarm signal if the nature of the interaction conforms to a profile **[Col. 15, Lines**

43-48], however fail to teach a system wherein the system includes a risk profile defining unacceptable interaction between a limb and the controllable element. However, Gould teaches a system that includes a risk profile defining unacceptable interaction between the limb and the controllable element **[see Gould, Col. 1, Lines 14-17]**

One of ordinary skill in the art at the time of Applicant's invention would have clearly recognized the advantage of combining the above teachings in order to take advantage of preventing Repetitive stress injury (RSI) that can be caused by excessive typing and bad hand position among other activities **[see Gould, Col. 1, Lines 25-27]**. It is for this reason that one of ordinary skill in the art would have been motivated to combine the above teachings.

15. **As per Claim 25**, Hesley and Casebolt as modified by Gould above teach a system including means for compiling and storing a record of the interaction between the user-controllable element and the users limb and the generation of alarm signals over a period of time **[see Gould, Col. 2, Lines 13-20]**.

Response to Arguments

4. Applicant's arguments see remarks, filed 4/05/2007; with respect to the rejection(s) of claim(s) 16-32 under Hesley and further Lignoul have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hesley and further in view of Casebolt. However, certain rejections were still maintained under prior art previously introduced and therefore to avoid repeatedly addressing any such arguments in future responses, Examiner would like to address the following arguments introduced by the Applicant.

Applicant argues:

(a) Prior art fails to teach "creating a warning signal to the user after too much user activity" (see Applicant's remark, Page 8, Page 1)

(b) Prior art fails to teach, "Vibrations caused by the eccentric mass."

17. With respect to argument (a), **Examiner disagrees**. It seems to the Examiner that the Applicant is reading the combined teachings of Hesley with that of Lignoul on individual basis. Hesley does not teach, as applicant claims, an alarm signal after "too much user activity." In fact, Hesley simply states that

after a presence of hand is detected on the mouse (including whether the user was using or not using the apparatus) an alarm signal is generated [see Hesley, Col. 6 Line 64 – Col. 7, Line 6]. However, as modified with Lignoul, Examiner provides the Applicant with clear and concise invention wherein focus of the alarm is narrowed only to the present and inactive period providing a trigger for the alarm [see Casebolt, Col. 15, Lines 16-25].

18. With respect to argument (b), **Examiner disagrees**. Applicant's claimed invention simply requires "...the member is a motor operated eccentric mass that vibrates the member to provide a tactile signal." Serpa provides teachings of force feedback from computer interface devices such as a mouse, keyboard, etc wherein in the entire arrangement provides the tactile signal by way of vibrating the entire device extensively [see Col. 1, Lines 45-60]. Serpa's invention builds on this invention by providing a more stabilized force feedback wherein instead of having the entire mouse vibrate extensively, the feedback is more graceful and can be directed to individual portions of the mouse [see Col. 2, Lines 39-63]. By having a more stabilized force feedback, the tactile output can be isolated to the non-planar surface and allow the use of multiple tactile output mechanisms in a single computer input device. As claimed, Applicant's invention does not claim the "level" of vibration to be overly extensive (prior art in background of Serpa's invention teaches this limitation) and therefore it is Examiner's position that prior art still reads on the claimed invention as provided.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasjit S. Vidwan whose telephone number is (571) 272-7936. The examiner can normally be reached on 8am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM HUYNH can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSV
6-9-2007



KIM HUYNH
SUPERVISORY PATENT EXAMINER
6/11/07